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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/732,359

12/07/2000

Deepak V. Ayyagari

99-961

1701

32127

7590

12/16/2004

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EXAMINER

FERRIS, DERRICK W

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/732,359	<b>Applicant(s)</b> Ayyagari et al.	
	<b>Examiner</b> Derrick W. Ferris	<b>Art Unit</b> 2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 September 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 and 31-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-13 is/are allowed.
- 6) ☒ Claim(s) 31 is/are rejected.
- 7) ☒ Claim(s) 32-34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of group I in the reply filed on 9/14/2004 is acknowledged. Examiner noted claims 28-30 dependent on claim 27 were accidentally omitted from group II in examiner's restriction. As such, the corrected groups are as follows:

**Group I** (elected group): 1-5, 6-10, 11-13, 31, and 32-34

**Group II:** 14-27, 28-30, ~~31~~ and 25-38

As mentioned previously, claim 31 is a generic claim supported by both invention/species 1 (i.e., Group I) in applicant's **figure 1** with respect to **MC-CDMA** and invention/species 2 (i.e., Group II) in applicant's **figure 2** with respect to **VG-CDMA**.

### *Drawings*

2. Examiner notes two *different* sets of drawings are filed with the application 12/07/2000. In particular, the second set of drawings (i.e., the set of drawings that is 8 pages and 9 figures) does not appear to be relevant to applicant's invention yet contains the application's serial number on the left-hand side of the page demonstrating that the pages were filed/scanned with the application.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. **Claim 31** is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,069,883 A to *Ejzak et al.* (“*Ejzak*”).

As such to **claim 31**, *Ejzak* teaches a step of a plurality of users having different bit energy to noise requirements as part of 411 in figure 4 and figure 6. In particular, the pilot strength measurements, see e.g., column 9, lines 22-25 use  $E_b/N_0$  see e.g., column 20, lines 43-50. A limited number of potential codes available to be used by the users is taught since MC-CDMA is used, see e.g., column 9, lines 22-54. A limited overall power allocation available for each of the potential codes is further taught since the power is determined for each user station, *id.* In particular, the admission control function (see block 413 in figure 4), performs the further step of maximizing the capacity utilization within the network with the limited power budget as function 607 shown in figure 6 of function 707 shown in figure 7.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claim 31** is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. U.S. Patent No. 6,597,705 B1 to *Rezaiifar et al.* (“*Rezaiifar*”) in view of “Multi-Code CDMA Wireless Personal Communications Networks” to *I et al.* (“*I*”).

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As such to **claim 31**, *Rezaiifar* discloses in figure 6 step 602 a plurality of users having different bit energy to noise requirements. In particular, the mobile requests a particular service including the power and rate, see e.g., column 5, lines 33-44 where power is part of a different bit energy to noise requirement, see e.g., column 5, lines 1-9. *Rezaiifar* also teaches the limitation a limited overall power allocation available for each of the potential codes using e.g., equation (4) at column 7, line 30 transmit power of the *i*th mobile is compared with the total power. *Rezaiifar* also teaches the limitation an admission protocol, the admission protocol maximizing the capacity utilization within the network with the limited overall power budget as part of determining the maximum rate (1) which uses equation (4). In particular, the maximum rate is an optimization function (i.e., maximizes the capacity utilization within the network with the limited overall power budget).

*Rezaiifar may be* silent or deficient to the further limitation a limited number of potential codes available to be used by the users. In particular, the reference teaches determining the rate of at least one code since *Rezaiifar* teaches CDMA, see e.g., column 13, lines 27-40. However, assuming the above statement is not clear from the reference, the examiner also notes the following obviousness rejection as well.

*I* teaches the further recited limitation above since *I* teaches MC-CDMA such that more than one code is assigned to a user for a particular data rate, see e.g., Section 2 on page 1061.

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The proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Rezaiifar* by clarifying that CDMA is actually MC-CDMA.

As such, examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include limitation mentioned above. In particular, the motivation for modifying the reference or to combine the reference teachings would be to support different data rates using different codes. In particular, *I* cures the above-cited deficiency by providing the above motivation found at e.g., Section 2 on page 1061. Second, there would be a reasonable expectation of success since *Rezaiifar* further teaches that other schemes can be used, see e.g., column 13, lines 17-27. Thus the references either in singular or in combination teach the above claim limitation(s).

***Allowable Subject Matter***

7. **Claims 1-5, 6-10, and 11-13** are allowed.
8. **Claims 32-34** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (571) 272-3123. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Derrick W. Ferris  
Examiner  
Art Unit 2663

  
DWF

  
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SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600 12/10/04